

ABSTRACT

A dispersion compensation controlling apparatus used in a very high-speed optical communication system adopting optical time division multiplexing system comprises a first specific frequency component detecting unit (2a) detecting a first specific frequency component in a baseband spectrum in a transmission optical signal inputted to a receiving side over a transmission fiber as a transmission line (6a), a first intensity detecting unit (3a) detecting information on an intensity of the first specific frequency component detected by the first specific frequency component detecting unit (2a), and a polarization-mode dispersion controlling unit (220a) controlling a polarization-mode dispersion quantity of the transmission line (6a) such that the intensity of the first specific frequency component detected by the first intensity detecting unit (3a) becomes the maximum, thereby easily detecting and compensating polarization-mode dispersion generated in a high-speed optical signal.